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## NOTICE OF ALLOWANCE AND FEE(S) DUE

44012 7590 12/28/2009

WRB-IP LLP  
1217 KING STREET  
ALEXANDRIA, VA 22314

EXAMINER

BARTOSIK, ANTHONY N

ART UNIT

PAPER NUMBER

3635

DATE MAILED: 12/28/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,632

02/18/2004

Theodore R. Zeigler

000002-001

9087

TITLE OF INVENTION: COLLAPSIBLE STRUCTURE WITH SELF-LOCKING MECHANISM AND METHOD OF ERECTING A COLLAPSIBLE STRUCTURE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	03/29/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

44012 7590 12/28/2009

WRB-IP LLP  
1217 KING STREET  
ALEXANDRIA, VA 22314

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/779,632 02/18/2004 Theodore R. Zeigler 000002-001 9087

TITLE OF INVENTION: COLLAPSIBLE STRUCTURE WITH SELF-LOCKING MECHANISM AND METHOD OF ERECTING A COLLAPSIBLE STRUCTURE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional YES \$755 \$300 \$0 \$1055 03/29/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
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BARTOSIK, ANTHONY N 3635 052-646000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/779,632	02/18/2004	Theodore R. Zeigler	000002-001	9087
44012	7590	12/28/2009	EXAMINER	
WRB-IP LLP 1217 KING STREET ALEXANDRIA, VA 22314			BARTOSIK, ANTHONY N	
			ART UNIT	PAPER NUMBER
			3635	
DATE MAILED: 12/28/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 902 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 902 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/779,632	ZEIGLER, THEODORE R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ANTHONY N. BARTOSIK	3635	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/24/2009.
2. ☒ The allowed claim(s) is/are 1-8,10-22 and 26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

Anthony Bartosik  
Examiner  
Art Unit: 3635

### **EXAMINER'S AMENDMENT**

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this Examiner's amendment was given in a telephone interview with Harold Brown on December 17, 2009.

### ***Drawings***

2. Amended Figure 3, submitted on August 24, 2009 is accepted. Please enter.
3. The following changes to the drawings have been approved by the Examiner and agreed upon by Applicant: In FIGS 2 and 5, reference numerals 35a and 35b are to be added in each figure to better represent that the struts 33a, 33b are not continuous with the struts 37a, 37b as discussed. In order to avoid abandonment of the application, Applicant must make these above agreed upon drawing changes.

Please amend the application as follows:

The underlined portions indicated text to be added, while the text that is struck through is to be deleted.

***Claims***

4. A collapsible structure with a self-locking mechanism, comprising:

a first hub;

at least two struts pivotably connected at first ends thereof to the first hub and movable relative to each another between a folded position and an expanded position;

a tension member adapted to limit pivotable movement of the at least two struts such that, when in the expanded position, the at least two struts define an angle of less than 180°;

a locking hub having no rigid connection to the first hub; ~~and~~

at least two locking struts pivotably connected at first distal ends thereof to the locking hub and, at second distal ends thereof, to connection points on respective ones of the at least two struts ; and

second struts pivotably connected at first ends thereof to respective ones of the at least two struts,

wherein the tension member includes a cover attached to the collapsible structure at second ends of the second struts.

5. A collapsible structure with a self-locking mechanism, comprising:

a first hub;

at least two struts pivotably connected at first ends thereof to the first hub and movable relative to each another between a folded position and an expanded position;

Art Unit: 3635

a tension member adapted to limit pivotable movement of the at least two struts such that, when in the expanded position, the at least two struts define an angle of less than 180°;

a locking hub having no rigid connection to the first hub; and

at least two locking struts pivotably connected at first distal ends thereof to the locking hub and, at second distal ends thereof, to connection points on respective ones of the at least two struts,

wherein the tension member includes a surface upon which bottom ends of the at least two struts of the collapsible structure are disposed when the collapsible structure is erected.

#### **REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:
5. The 35 U.S.C. § 112, second paragraph rejection of claims 16 and 17 were corrected in Applicant's amendments of 8/24/2009. Applicant's amendments of 8/24/2009 were held not to rectify the 35 U.S.C. § 112, second paragraph rejection of claim 4, which should have more appropriately been made as a 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. After a telephonic discussion with Applicant's representative, claim 4 was amended to its current state to overcome the 35 U.S.C. § 112 issue. Claim 5, as submitted in the amendments of

Art Unit: 3635

8/24/2009 was determined not to overcome the standing rejection, so claim 5 was amended to include the language as shown above to overcome the prior art.

6. The claims are found to be allowable based on the compilation of the recited elements coupled with the required functional limitations. The claimed strut configuration, of the at least two struts connected to a first hub, a locking hub having no rigid connection to the first hub; and at least two locking struts pivotably connected at first distal ends thereof to the locking hub and, at second distal ends thereof, to connection points on respective ones of the at least two struts and a tension member set forth the structural limitations that provide the initial elements that are an essential part of what makes the claims patentable. Each of the independent claims then also require further limitations that relate to the function of the collapsible structure.

In claim 1, the locking struts are adapted to pivot through an angle greater than 90°. The prior art, for example Chou, did not disclose structure that is capable of functioning as claimed. Furthermore, there was no suggestion in the reference to modify the structure to allow for such a function. To modify Chou would be to use impermissible hindsight.

Claim 4 includes additional structure of second struts that are connected to the at least two struts at first ends and the second ends are connected to a cover which is the tension member. The functional limitations of claim 4 that require the cover to be capable of limiting the movement of the collapsible structure in connection with the recited structure was not found disclosed or taught within the prior art.



Art Unit: 3635

Claim 5 includes the additional limitation of the bottom ends of the at least two struts being inhibited from movement by both being retained by the tension member which is a single surface which limits the pivotal movement. The closest cited prior art Chou does not disclose or suggest such a tension member in connection with the other structural elements that function as claimed.

Independent claim 12 is found to be patentable for at least the same reasons as claim 4, and by the fact that it contains additional structure not found within the prior art as claimed.

For at least the reasons set forth above, the claims are found to be patentable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY N. BARTOSIK whose telephone number is (571)270-3112. The examiner can normally be reached on M-F 7:30-5:00; E.D.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3635

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard E. Chilcot, Jr./  
Supervisory Patent Examiner, Art Unit 3635

Anthony Bartosik  
Examiner  
Art Unit 3635